

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS

- C1
cont
1. (Previously Presented) A method for rendering DVD subpicture data on a computer system having graphics data without a loss of subpicture resolution, said method comprising:
- inserting a key into the subpicture data to indicate that the data is subpicture information and not the graphics data;
 - writing the subpicture data to a primary surface, the primary surface also receiving the graphics data;
 - reading data out of the primary surface;
 - determining if the data read out of the primary surface is subpicture data or graphics data by looking for the key in said data;
 - converting the subpicture data to an RGB value and an alpha value and blending the RGB value with DVD video data according to the alpha value if the data is subpicture data; and
 - combining the graphics data with the DVD video data if the data is graphics data.
2. (Previously Presented) The method in accordance with claim 1, wherein the primary surface is in 24-bit RGB mode.

3. (Previously Presented) The method in accordance with claim 2, wherein the subpicture data has 8 bits.

01
ent
4. (Previously Presented) The method in accordance with claim 3, wherein said inserting comprises:

inserting a 16-bit key into the subpicture data to indicate that the data is subpicture information and not the graphics data.

5. (Previously Presented) The method in accordance with claim 4, wherein the 16-bit key is inserted into bits spread evenly among said 24 bits.

6. (Previously Presented) The method in accordance with claim 2, wherein said determining comprises

examining 16 bits of the data and comparing the 16 bits with a 16-bit combination reserved to indicate subpicture data.

7. (Previously Presented) The method in accordance with claim 1, wherein the primary surface is in 16-bit 565 RGB mode.

8. (Previously Presented) The method in accordance with claim 7, wherein the subpicture data has 8 bits.

9. (Previously Presented) The method in accordance with claim 8, wherein said inserting comprises:

inserting an 8-bit key into the subpicture data to indicate that the data is subpicture information and not the graphics data.

C1
Crest

10. (Previously Presented) The method in accordance with claim 9, wherein the 8-bit key is inserted into bits spread evenly among the 16 bits.

11. (Previously Presented) The method in accordance with claim 9, wherein said determining comprises:

examining 8 bits of the data and comparing the 8 bits with an 8-bit combination reserved to indicate subpicture data.

12. (Previously Presented) The method in accordance with claim 1, wherein the primary surface is in 16-bit 555 RGB mode, wherein the 16-bit 555 RGB mode provides 5 bits for red information, 5 bits for green information, 5 bits for blue information, and 1 empty bit.

13. (Previously Presented) The method in accordance with claim 12, wherein the subpicture data has 8 bits.

14. (Previously Presented) The method in accordance with claim 13, wherein said inserting comprises:

inserting a 1-bit key into the empty bit of the subpicture data to indicate that the data is subpicture information and not the graphics data.

01
cont

15. (Previously Presented) The method in accordance with claim 12, wherein said determining comprises:

examining 1 bit of the data and comparing the 1 bit with a 1-bit combination reserved to indicate subpicture data.

16. (Previously Presented) The method in accordance with claim 1, wherein said combining comprises:

creating an alpha value based on whether the graphics data represents a color set aside as a key color and combining the graphics data and the DVD video data according to the alpha value.

L

17. (Cancelled)

¹⁷
18. (Previously Presented) A DVD subpicture data renderer comprising:

a memory having a primary surface and a video surface;

a key inserter;

a subpicture data writer coupled to said key inserter and coupled to said primary surface;

a primary surface reader coupled to said primary surface;

a subpicture key select block coupled to said primary surface reader;

01
a subpicture detector coupled to said subpicture key select block;
an index select block coupled to said primary surface reader;
a subpicture palette coupled to said index select block;
an alpha select block coupled to said primary surface reader;
a multiplexor having a plurality of inputs and an output, one of said inputs coupled to said alpha select block and another of said inputs coupled to said subpicture detector;
a video surface reader coupled to said video surface; and
an alpha blender coupled to said subpicture palette, said multiplexor, and said video surface reader.

18
19. (Previously Presented) The DVD subpicture data renderer in accordance with claim 18, further comprising:

a color and chroma key detect block coupled to said primary surface reader, said video surface reader, and said alpha blender.

19
20. (Previously Presented) The DVD subpicture data renderer in accordance with claim 18, wherein said primary surface reader is contained in a graphics engine on a graphics chip.

20
21. (Previously Presented) The DVD subpicture data renderer in accordance with claim 18, wherein said video surface reader is contained in a video engine on a graphics chip.

22-23. (Cancelled)

31
24. (Previously Presented) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for rendering DVD subpicture data on a computer system having graphics data without a loss of subpicture resolution, said method comprising:

inserting a key into the subpicture data to indicate that the data is subpicture information and not the graphics data;

writing the subpicture data to a primary surface, the primary surface also receiving the graphics data;

reading data out of the primary surface;

determining if the data read out of the primary surface is subpicture data or graphics data by looking for the key in said data;

converting the subpicture data to an RGB value and an alpha value and blending the RGB value with DVD video data according to the alpha value if the data is subpicture data; and

combining the graphics data with said DVD video data if the data is graphics data.

25-26. (Cancelled)

²²
~~27~~. (Currently Amended) An apparatus for rendering DVD subpicture data on a computer system having graphics data without a loss of subpicture resolution, said The
apparatus ~~in accordance with claim 26~~, further comprising:

means for inserting a key into the subpicture data to indicate that the data is subpicture information and not the graphics data;

means for writing the subpicture data to a primary surface, the primary surface also receiving the graphics data;

means for reading data out of the primary surface;

means for determining if the data read out of the primary surface is subpicture data or graphics data by looking for the key in said data;

means for converting the subpicture data to an RGB value and an alpha value and blending the RGB value with DVD video data according to the alpha value if the data is subpicture data; and

means for combining the graphics data with the DVD video data if the data is graphics data.

²³
~~28~~. (Currently Amended) The apparatus in accordance with claim ²²~~27~~ ~~claim 26~~, wherein the primary surface is in 24-bit RGB mode.

²⁴
~~29~~. (Previously Presented) The apparatus in accordance with claim ²³~~28~~, wherein the subpicture data has 8 bits.

²⁵
~~30~~. (Previously Presented) The apparatus in accordance with claim ²⁴~~29~~, wherein said means for inserting comprises:

C1
Unit
means for inserting a 16-bit key into the subpicture data to indicate that the data is subpicture information and not the graphics data.

²⁶
~~31~~. (Previously Presented) The apparatus in accordance with claim ²⁵~~30~~, wherein the 16-bit key is inserted into bits spread evenly among said 24 bits.

²⁷
~~32~~. (Previously Presented) The apparatus in accordance with claim ²³~~28~~, wherein said means for determining comprises:

means for examining 16 bits of the data and comparing the 16 bits with a 16-bit combination reserved to indicate subpicture data.

²⁸
~~33~~. (Currently Amended) The apparatus in accordance with claim ²²~~27~~ ~~claim 26~~, wherein the primary surface is in 16-bit 565 RGB mode.

²⁹
~~34~~. (Previously Presented) The apparatus in accordance with claim ²⁸~~33~~, wherein the subpicture data has 8 bits.

³⁰
~~35~~. (Previously Presented) The apparatus in accordance with claim ²⁹~~34~~, wherein said means for inserting comprises:

means for inserting an 8-bit key into the subpicture data to indicate that the data is subpicture information and not the graphics data.

³¹
~~30~~. (Previously Presented) The apparatus in accordance with claim ³⁰~~35~~, wherein the 8-bit key is inserted into bits spread evenly among the 16 bits.

C1
W
³²
~~31~~. (Previously Presented) The apparatus in accordance with claim ³⁰~~35~~, wherein said means for determining comprises:

means for determining 8 bits of the data and comparing the 8 bits with an 8-bit combination reserved to indicate subpicture data.

³³
~~32~~. (Currently Amended) The apparatus in accordance with claim ²²~~27~~ ~~claim 26~~, wherein the primary surface is in 16-bit 555 RGB mode, wherein the 16-bit 555 RGB mode provides 5 bits for red information, 5 bits for green information, 5 bits for blue information, and 1 empty bit.

³⁴
~~33~~. (Previously Presented) The apparatus in accordance with claim ³³~~38~~, wherein the subpicture data has 8 bits.

³⁵
~~34~~. (Previously Presented) The apparatus in accordance with claim ³⁴~~39~~, wherein said means for inserting comprises:

means for inserting a 1-bit key into the empty bit of the subpicture data to indicate that the data is subpicture information and not the graphics data.

³⁴
~~41~~. (Previously Presented) The apparatus in accordance with claim ³⁵~~38~~, wherein said means for determining comprises:

C)
und
means for examining 1 bit of the data and comparing the 1 bit with a 1-bit combination reserved to indicate subpicture data.

³⁷
~~42~~. (Currently Amended) The apparatus in accordance with claim ²²~~21~~ ~~claim 26~~, wherein said means for combining comprises:

means for creating an alpha value based on whether the graphics data represents a color set aside as a key color and combining the graphics data and the DVD video data according to the alpha value.
